| Assigned | Proposal | Number: | |
|----------|-----------------|---------|--|
| | | | |

Strategic University Research Partnership Proposal for FY2014 Due Date: June 24th, 2013, by 4 PM PDT

NOTE: Please mark in red, italic font, all sections that are ITAR sensitive

This template contains in the footer the default marking for export-controlled documents. IF THE REVIEW OF THIS PROPOSAL HAS DETERMINED THAT THE PROPOSAL DOES **NOT** CONTAIN EXPORT CONTROLLED INFORMATION, YOU WILL HAVE TO CHANGE THE FOOTER TO THE FOLLOWING MARKING:

"This document has been reviewed and determined not to contain export controlled technical data."

| 1 Title of Proposal | |
|--|--|
| 1. Title of Proposal | |
| | |
| 2. JPL Principal Investigator | 3. Co-Investigator(s) (University and JPL Co-Is) |
| Name – Section | Name – Affiliation – Email |
| 4. Total Budget Request for FY14 : | |
| Graduate Research Award proposal included [] | |
| Multi-year Student Research Initiative [] | |
| 5. Student Participants Name – Affiliation – academic level – Email | |
| 6. Topic Area— Place a "1" next to your primary | Communication and Navigation |
| area and a "2" next to your secondary (optional) | [] DSN Science |
| area you may delete unused entries | [] Optical communications & navigation technology [] Radio frequency communications |
| Outs Outs a Outs and | [] Internetworking |
| Solar System Science [] Solar system origin, structure and evolution | [] Position, navigation and timing |
| [] Planetary Atmospheres and Geology | [] Active radar instruments |
| [] Solar System characteristics and origin of life | [] Distributed spacecraft formation |
| [] Primitive solar systems bodies | [] Revolutionary concepts [] Pointing systems |
| [] Lunar science | Human Exploration Destination Systems |
| [] Preparing for returned sample investigations Earth Science | [] In-situ resource utilization |
| [] Atmospheric composition and dynamics | [] Cross-cutting systems |
| [] Land and solid earth processes | Science Instruments, Observatories and Sensor |
| [] Water and carbon cycles | Systems [1] Science Mission Directorate Technology Needs |
| [] Ocean and ice | [] Science Mission Directorate Technology Needs [] Remote Sensing instruments/sensors |
| [] Earth analogs to planets | [] Observatory technology |
| [] Climate Science | [] Advanced optics and telescopes |
| Astronomy and Fundamental Physics [] Origin, evolution, and structure of the universe | [] In-situ instruments/sensor technologies |
| [] Gravitational astrophysics and fundamental | [] Visible/IR/submillimeter, in-situ and remote |
| physics | sensing instruments |
| [] Extra-solar planets and star and planetary | [] Focal planes |
| formation | Entry, Descent and Landing Systems [] Aerobraking, aerocapture, and entry systems |
| [] Solar and Space Physics | [] Descent |
| [] Formation and evolution of galaxies | [] Precision Landing |
| In-Space Propulsion Technologies [] Chemical propulsion | [] Vehicle system technology |
| [] Chemical propulsion | Nanotechnology |

| [] Non-chemical propulsion | [] Engineered materials | | | |
|---|--|--|--|--|
| [] Electric Propulsion | [] Energy generation and storage | | | |
| Space Power and Energy Storage | [] Electronics, devices and sensors | | | |
| [] Power generation | Modeling, Simulation, Information Technology and | | | |
| [] Energy storage | Processing | | | |
| [] Power management & distribution | [] Flight and ground computing | | | |
| Robotics, Tele-Robotics and Autonomous Systems | [] Modeling | | | |
| [] Sensing | [] Simulation | | | |
| [] Mobility | [] Information processing | | | |
| [] Manipulation technology | Materials, Structures, Mechanical Systems and | | | |
| [] Human-systems interfaces | Manufacturing | | | |
| [] Autonomy | [] Materials | | | |
| [] Autonomous rendezvous & docking | [] Structures | | | |
| [] Systems engineering | [] Mechanical systems | | | |
| | Thermal Management Systems | | | |
| | [] Cryogenic systems | | | |
| | [] Thermal control systems | | | |
| | [] Thermal protection systems | | | |
| 7. Objectives— State clearly and concisely the objectives of your work and the expected deliverables. | | | | |
| 9 Tachnical Annyasah Daggiba yayı nlan ta gabi | ava vaur abiaativaa. Provida anasifia taaka | | | |
| 8. Technical Approach— Describe your plan to achieve your objectives. Provide specific tasks, milestones, and responsibilities. | | | | |
| | | | | |
| 9. Renewal Proposal— If this is a renewal proposal, describe the accomplishments of the previous year's work. | | | | |
| 10. Multi-Year Rationale— If you are proposing a m | ulti-year Student Research Initiative, please describe | | | |
| the benefits of an extended award. | | | | |
| 11. Innovative Features— Describe any new and original features of the proposed work. | | | | |
| | | | | |
| | | | | |
| 12. Team Strengths— Describe the strengths each member of the team brings to the proposed effort. | | | | |
| | | | | |
| | | | | |
| | | | | |

| 13. Exchange of personnel— Describe any plans to have work performed at JPL by university personnel or at the university by JPL personnel. | | | | |
|--|---------------------|--------------------|--|--|
| 14. Significance and Impact of Results on missions/programs or types of missions. | | | | |
| 15. Plans for Follow-on Funding — <i>Provide how this proposal may enhance the probability</i> | ty of such funding. | potential. Discuss | | |
| 16. JPL Principal Investigator Signature (an original signature is required) | | | | |
| Name: | Signature: | Date: | | |
| 17. Document Reviewer Signature (Line organization's export document reviewer - an original signature is required) | | | | |
| Name: | Signature: | Date: | | |
| 18. JPL PI Division Manager (or designee) Signature (an original signature is required) | | | | |
| Name: | Signature: | Date: | | |
| 19. University Lead Co-Investigator Signature | | | | |
| Name: | Signature: | Date: | | |
| 20. University Authorizing Signature (this signature may also be provided instead on a letter attached with university budget) | | | | |
| Name: | Signature: | Date: | | |

21. Figures, Graphics, Tables, etc.

(Please do not use "text-wrapping" when incorporating.)

22. SURP Budget Sheet

| Category | FY'14 cost |
|--|------------|
| SURP tasks are reported on a Direct Cost ("Raw Cost + Fringe Benefits") basis - no other burdens should be included. | |
| Salaries— (Itemize) Only itemize the person names or job classifications and the number of hours for each. Show one total \$ salary figure for labor. Itemize names and hours (or FTE) here | \$ |
| 2. Labor Fringe — Employee Benefits | \$ |
| 3. Cat A Labor— (Itemize) Only itemize the person names or job classifications and the number of hours for each. Show one total \$ figure for labor. Itemize names & hours here | \$ |
| 4. Procurements-PO (Equipment, Materials and Supplies) (Itemize) | \$ |
| 5. Procurement–RSA (or PS) for University Subcontract(s) (Important! See notes #1 and #2 below) Itemize and indicate whether the subcontract will be a RSA or PS type. | \$ |
| | |
| 6. Procurements- PS (Itemize equipment subcontracts) | \$ |
| 7. Procurements- PS (Itemize materials and supplies subcontracts) | \$ |
| 8. Services— (Itemize all in-house services at JPL) | \$ |
| 9. Travel — (itemize by trip into the following categories): Domestic Conference Travel (specify conference title, travel destination, and total budgeted cost for each conference) Domestic Programmatic Travel (specify travel destination and total budgeted cost for each trip) Foreign Conference Travel (only one foreign conference travel is allowed per year, specify conference title, travel destination, and total budgeted cost for the conference) Foreign Programmatic Travel (specify travel destination and total budgeted cost for each trip) | \$ |
| 10. Other—(Chargebacks, etc.) (Itemize) | \$ |
| 11. TOTAL BUDGET REQUEST (total of dollars 1 through 10) | \$ |
| | * |

Note #1: You must attach a budget breakdown from each university partner. There is no page limit and the format is the university's choice. The budget breakdown should be adequate for reviewers to understand labor, procurements, subcontracts, services, travel, and university overhead.

Note #2: Use an "RSA" type of subcontract to send funds to your university partner, except for the following circumstances: If your proposal involves hardware or software deliveries or if government furnished property will be sent to the university, then a RSA subcontract will not be allowed. Under these circumstances, use a "PS" type of subcontract

23. Budget Details for University Partner(s)

Complete the table below for each partner. You may include your collaborator's budget details in a format of their choosing, in addition to this table - there is no page limit for this

| UNIVERSITY PARTNER BUDGET SHEET | FY'14 Cost |
|--|------------|
| a. Salaries (Itemize) Only "itemize" the person names and job classifications and the number of hours for each. You can show one total \$ salary figure for labor. | \$0 |
| b. Employee Benefits | \$0 |
| c. Procurements –Equipment, Materials and Supplies (Itemize). | \$0 |
| d. Procurements – Subcontracts (Itemize) | \$0 |
| e. Services - (Itemize) | \$0 |
| f. Travel – (Itemize) | \$0 |
| g. Other - (Itemize) (include Tuition Remission here) | \$0 |
| h. Overhead - external (university or other outside organization) | \$0 |
| i. Total Budget (sum of lines a. through h include this in your budget sheet above) | \$0 |